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Cardiac Computed Tomography: A Team Approach?

The introduction of multidetector computed tomography (CT) scanners with cardiac gating capacity has revolutionized the noninvasive evaluation of the heart. Cardiac CT has been enthusiastically adopted because it provides high-contrast cross-sectional views of the coronary arteries and cardiac chambers, with no limitations on the viewing plane or the field of view. However, the introduction of this technology has forced a reevaluation of the long-standing divisions in the delivery of cardiac imaging services in the majority of Canadian centers.

In the past 20 years, cardiologists have largely taken over coronary angiography and echocardiography services. In many centers, cardiologists provide nuclear cardiology services in conjunction with nuclear medicine physicians. By comparison, radiologists have interpreted the chest radiographs and chest CTs, examinations that largely yield information on extracardiac structures in the chest. The almost exclusive provision of cardiac imaging by cardiologists has led to tight integration of clinical and imaging data for cardiac patients. It has been suggested that this leads to improved care of cardiac patients. However, this separation of imaging services has reduced the interaction between cardiology and radiology, and has led to a decline in the average knowledge base of radiologists with respect to cardiac diseases and a similar decline in the knowledge base of cardiologists with respect to extracardiac disease. Finally, radiologists receive more intensive training than cardiologists in an emerging CT issue, radiation dose.

The advent of cardiac CT has spoiled this status quo. Cardiologists supervising and interpreting cardiac CT studies had to become familiarized with CT scan parameters, CT artifacts, contrast media delivery protocols, operational issues, thoracic structures surrounding the heart, and radiation-dose issues. Radiologists in the same situation needed to reacquaint themselves with the spectrum of imaging findings associated with cardiac diseases. Finally, close communication had to be reestablished between the 2 specialties to communicate the findings. In most cases, the easiest and most-efficient approach was to bring the expertise of the 2 specialties together in a team that provided cardiac CT services. The specific details regarding the role and responsibilities of team members have varied, depending on the local situation. In teams that have functioned well, the interaction between radiology and cardiology has been professionally stimulating and may result in substantially improved patient care, particularly regarding extracardiac issues. The required interaction between team members has also improved the relationship between the 2 specialties.

The Canadian Association of Radiologists / Canadian Cardiovascular Society Consensus Training Standards for Cardiac CT published in this issue of the *Canadian Association of Radiologists Journal* (*CARJ*) is a testament to this team approach (p 68). A consortium of radiologists and cardiologists has developed these guidelines, which serve as a guide to training requirements for members of either specialty to interpret cardiac CT examinations. The authors and the sponsoring societies (Canadian Association of Radiologists, Canadian Cardiovascular Society) should be congratulated for the joint approach that has been taken to their development. It is recognized that some members of either specialty may have thought it would be better to go it alone in devising training standards. The joint development of these standards ensures good patient care and eliminates at least a potential flash point for interspecialty conflict. Finally, it is recognized that, for historical or interpersonal reasons, a team approach to cardiac CT may not be successfully implemented in some hospitals. Although the absence of a team approach does not preclude the development of a successful cardiac CT program, the potential advantages of teamwork will not be realized.

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